

Crime

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This is a 2018 Dataset

Importing and Manipulating Dataset

```
## -- Attaching packages ----- tidyverse 1.3.0 --
## v ggplot2 3.3.2      v purrr  0.3.4
## v tibble  3.1.6      v dplyr  1.0.8
## v tidyr   1.1.2      v stringr 1.4.0
## v readr   2.1.2      v forcats 0.5.0

## Warning: package 'readr' was built under R version 4.0.5
## Warning: package 'dplyr' was built under R version 4.0.5

## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()

## New names:
## * `` -> ...2
## * `` -> ...3
## * `` -> ...4
## * `` -> ...5
## * `` -> ...6
## * ...
## New names:
## * `` -> ...2
## * `` -> ...3
## * `` -> ...4
## * `` -> ...5
## * `` -> ...6
## * ...
```

Checking Dimensions

```
## [1] "Georgia: "
## [1] 254  12
## [1] "Illinois: "
## [1] 521  12
```

Let's get the variables we are most interested in:

Getting relevant Data for Georgia

```
## # A tibble: 94 x 2
##   City           Crime.Rate
##   <chr>          <dbl>
## 1 Braselton3      0.572
## 2 Johns Creek    0.662
## 3 Milton          0.750
## 4 Holly Springs  1.02
## 5 Peachtree City 1.37
## 6 Grovetown       1.38
## 7 Kennesaw        1.39
## 8 Jefferson       1.43
## 9 Flowery Branch  1.47
## 10 Tyrone          1.47
## # ... with 84 more rows
```

Analyzing Georgia

```
which(new.georgia$City == "Alpharetta")
```

```
## [1] 17
```

Alpharetta Ranks 17th in the list of least crimes out of 94 cities

```
which(new.georgia$City == "Atlanta")
```

```
## [1] 69
```

Atlanta does poorly in terms of crime.. It ranks 69th!!! - Not Nice

```
ga.cities <- c("Alpharetta", "Johns Creek", "Milton", "Duluth", "Decatur", "Savannah-Chatham Metropolitan", "Atlanta")
```

```
filter(new.georgia, new.georgia$City %in% ga.cities)
```

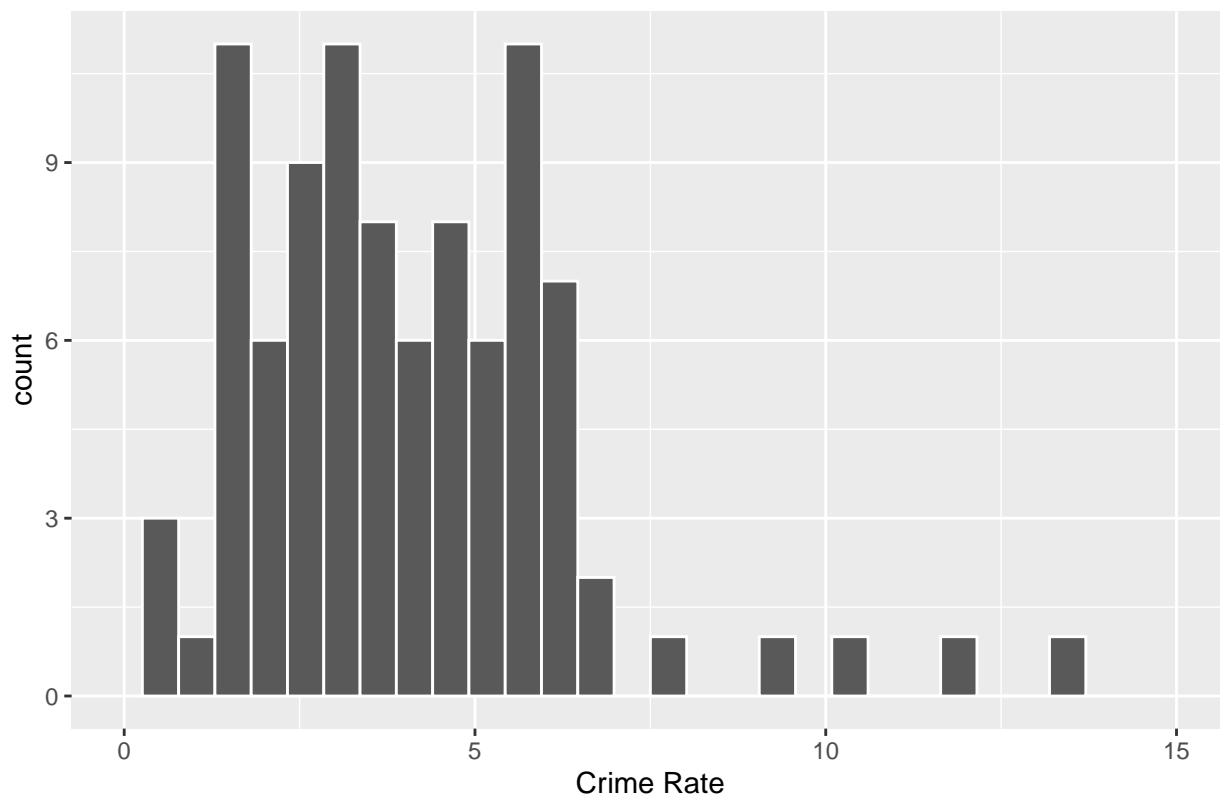
```
## # A tibble: 10 x 2
##   City           Crime.Rate
##   <chr>          <dbl>
## 1 Johns Creek    0.662
## 2 Milton          0.750
## 3 Kennesaw        1.39
## 4 Roswell         1.70
## 5 Alpharetta      1.86
## 6 Duluth           1.86
## 7 Sandy Springs   1.97
## 8 Decatur          2.52
## 9 Savannah-Chatham Metropolitan 2.87
## 10 Atlanta         5.42
```

Of the cities listed, Johns Creek is the safest followed by Milton Atlanta is the least safest city in the list with a crime rate of 5.4%

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

```
## Warning: Removed 2 rows containing missing values (geom_bar).
```

Typical Crime rate in Georgia



```
new.georgia[which.max(new.georgia$Crime.Rate),]
```

```
## # A tibble: 1 x 2
##   City      Crime.Rate
##   <chr>      <dbl>
## 1 East Point      13.2
```

East Point is the most dangerous city in Georgia

Getting relevant Data for Illinois

```
## # A tibble: 277 x 2
##   City      Crime.Rate
##   <chr>      <dbl>
## 1 Campton Hills      0.159
## 2 Sandwich           0.217
## 3 Elburn             0.220
## 4 Gilberts           0.279
## 5 Justice            0.281
## 6 Chester            0.353
## 7 Manhattan          0.355
## 8 Huntley            0.391
## 9 Charleston         0.431
## 10 Winfield          0.440
## # ... with 267 more rows
```

```
which(new.illinois$City == "Chicago")
```

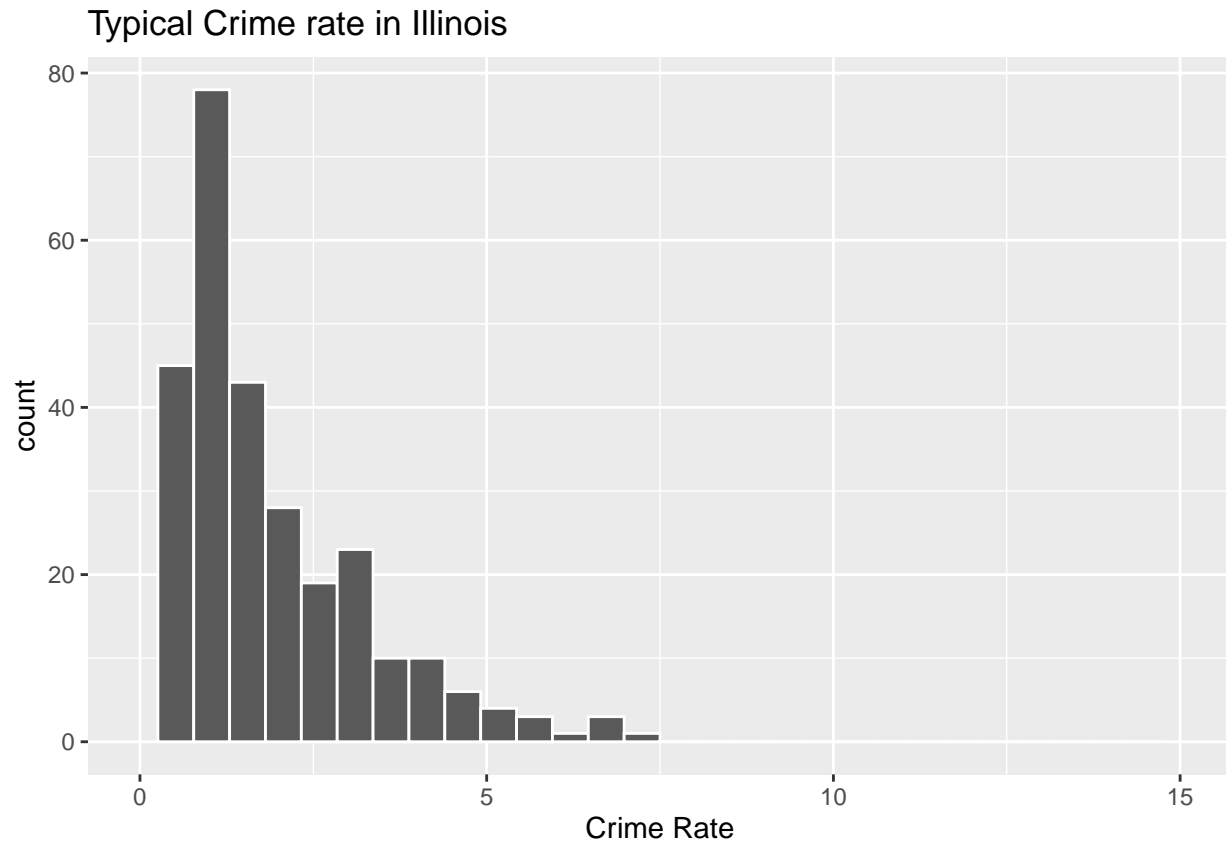
```
## [1] 252
```

Chicago can be considered as a dangerous city as it ranks 252th out of 277 cities in safety

Analyzing Illinois

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

```
## Warning: Removed 2 rows containing missing values (geom_bar).
```



```
new.illinois[which.max(new.illinois$Crime.Rate),]
```

```
## # A tibble: 1 x 2
##   City      Crime.Rate
##   <chr>      <dbl>
## 1 North Riverside    7.15
```

North Riverside is the most dangerous city in Illinois

Comparing Georgia and Illinois

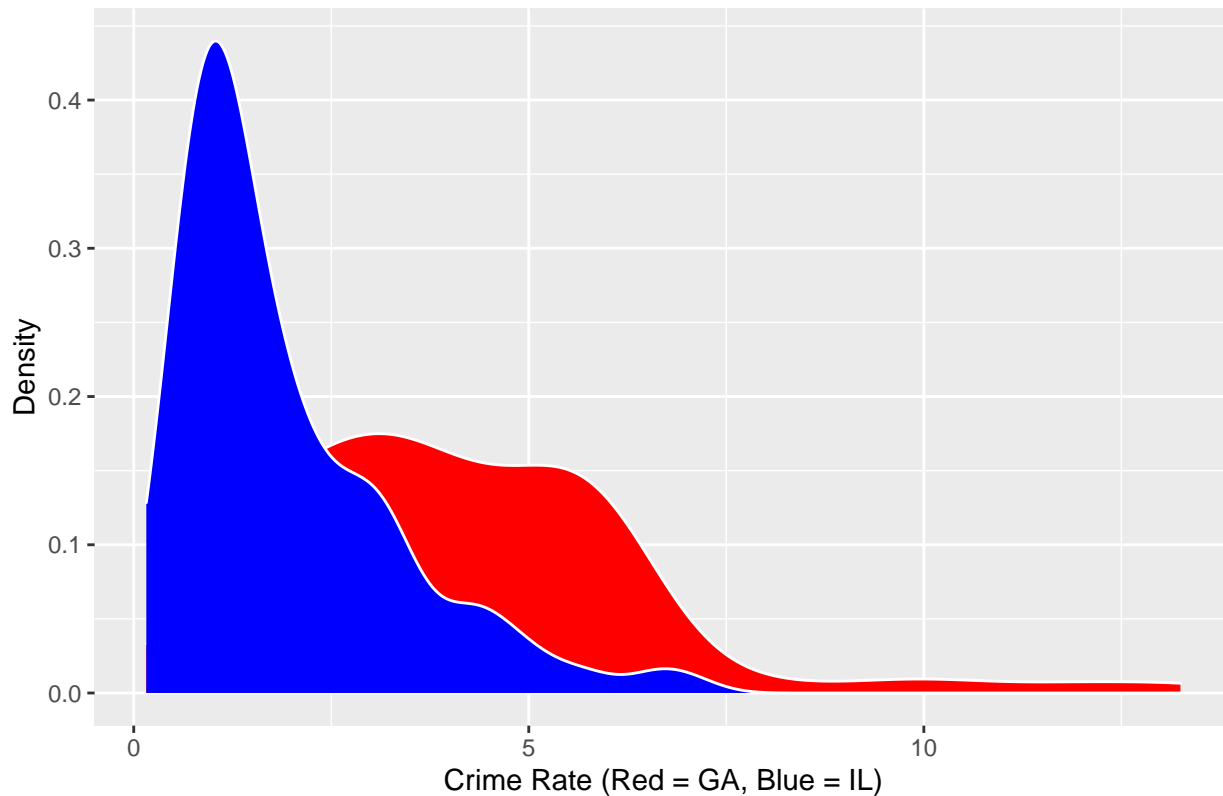
```
## [1] "Average Crime Rate in Georgia 4.08098848206807"
```

```
## [1] "Average Crime Rate in Illinois 1.91165082865863"
```

```
## [1] "Crime rate in Atlanta: 5.42323616323931"
```

```
## [1] "Crime rate in Chicago: 4.18770417678165"
```

Crime Rate in Georgia vs Illinois



```
new.georgia$Crime.Rate[new.georgia$City == "Alpharetta"]

## [1] 1.858287
georgia$Population[georgia$City == "Alpharetta"]

## [1] 67051

alpharetta.of.illinois <- new.illinois$City[new.illinois$Crime.Rate > 1.8 & new.illinois$Crime.Rate < 1.858287]
alpharetta.of.illinois

## [1] "Johnsburg"      "Berwyn"          "Crete"           "Peoria Heights"
## [5] "Manteno"        "Park Forest"     "Joliet"          "Spring Valley"

illinois %>% filter(City %in% alpharetta.of.illinois & Population > 50000 & Population < 80000)

## # A tibble: 1 x 12
##   City      Population Violent.Crime Murder.And.NonN~ Rape  Robbery Aggravated.Assau-
##   <chr>      <dbl>      <dbl> <chr>      <chr> <chr>      <chr>
## 1 Berw~      55391          191 1          54    54        82
## # ... with 5 more variables: Property.Crime <dbl>, Burglary <chr>,
## #   Larceny.Theft <chr>, Motor.Vehicle.Theft <chr>, Arson <chr>

Berwyn is the Alpharetta of Illinois
```

Other Stuff

```
il.cities <- c("Oak Brook", "South Barrington", "Lincolnwood", "Hoffman Estates", "Glendale Heights")
```

```
filter(new.illinois, new.illinois$City %in% il.cities)
```

```
## # A tibble: 4 x 2
##   City                Crime.Rate
##   <chr>              <dbl>
## 1 Hoffman Estates    0.903
## 2 Glendale Heights  1.22
## 3 Lincolnwood        3.17
## 4 Oak Brook          6.94
```